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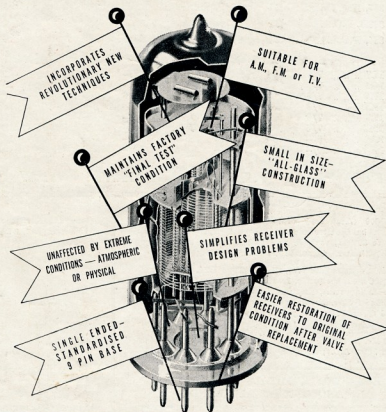
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EDITORIAL



The Responsibilities of Membership

When discussing the organisation of a society such as the Wireless Institute of Australia, the remark has often been heard that "Divisional Councils have this or that responsibility to members," and whilst accepting this fact, it is also obvious that individual members also have responsibilities to their Divisional Councils and to the Institute as a whole.

On reviewing this question, it becomes apparent that members' responsibilities embrace such things as supporting their elected representatives in promoting an active and energetic vitality in their Division's general life and group activities.

This interest can be most helpfully displayed by members in shouldering their share of the work to be done, rather than leaving everything to the few reliable workers who frequently bear more than their share of the load.

We feel sure that you will agree that even the largest Divisions find it difficult to obtain office-bearers and helpers at times, and very frequently the excuse offered by some is that the affairs of the Divisions are run by a clique who do not want newcomers to enter their select circle. Now we consider this to be rationalisation to say the least—newcomers with new ideas always help to improve the progress of an organisation, and the Wireless Institute is no exception in this regard.

When you consider that the privileges we enjoy today have been obtained for us by such organised

effort, there is no excuse for lack of enthusiasm by individual members in rising to the occasion when workers are in demand.

Have you ever stopped to examine the position, or to consider what unified control of Amateur activities has been achieved by the Wireless Institute of Australia—if so, you will have no difficulty in recognising that members have another responsibility insofar as it is their duty to obtain new members for their Division and thus strengthen our representation to the P.M.G.'s. Department when we approach them on behalf of the Australian Amateur.

Departmental officers have often publicly expressed the opinion that the conditions under which we operate today have been obtained only because of the friendly contact which exists between the P.M.G. Department and our organisation. The Advisory Committees, which we originally sponsored, have helped, in no small measure, to maintain this relationship and to ensure a friendly solution to breaches of the regulations.

Will you therefore do your part by taking an active interest in Divisional affairs next time someone is required to undertake official duties, and also start right now by securing some membership allocation forms from your Secretary and making definite visits to non-members with a view to enlisting them in your Division.

FEDERAL EXECUTIVE.

The Contents . . .

807s As Floating Screen R.F.		A Single Tube V.F.O.	7
Amplifiers	3	Contests	8
Television Made Easy, Part II.— How The Camera Works	4	Federal, QSL, and Divisional Notes	10

Homecrafts

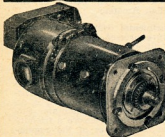
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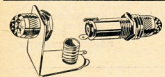


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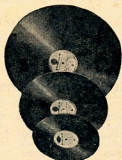
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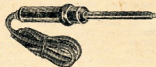
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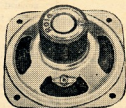
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807s As Floating Screen R.F. Amplifiers

BY B. HANNAFORD,* VK2ALR

THE circuit to be described came from experiments with 807s as r.f. triodes. One circuit used an 807 with the screen resistor and by-pass condenser connected to plate. Another used an r.f. by-pass condenser between control grid and screen, the screen resistor being connected in the usual way. Both these circuits will work, the idea being to parallel the required elements for r.f. but still have normal d.c. screen volts.

If you wish to experiment on these lines, don't fail to remember there is a phase difference across the condenser so the elements are not really at the same instantaneous r.f. potential. With both these circuits neutralising will be required. A rather large capacity in the first circuit and a small capacity in the second circuit.

Using the second circuit, tests were made on the necessary capacity for the grid to screen condenser. Surprisingly, it was found that the condenser was apparently unnecessary. The circuit was quite stable with the screen floating. Now we have a third circuit with an un-by-passed screen grid and neutralised in the normal manner. For the want of a better name let's call this the floating screen circuit, the screen apparently having no definite r.f. potential. The circuit may be single ended or push-pull, the screens may be fed from a common resistor without trouble.

To sum up, the floating screen circuit is a normal tetrode circuit with neutral-

ising added and the screen by-pass taken out. It can be plate and screen modulated and the drive requirements are the same as for tetrode connection. In fact, you might almost consider it a tetrode circuit with the neutralising cancelling out the feed-back due to the un-by-passed screen.

Consider it as we do desire, but what we really want to know is what are the advantages of its use? From the limited number of tests possible before writing this article, it appears the circuit has more stability than the usual 807 tetrode circuit. Perhaps this circuit has the stability we have always wanted but so seldom got without a lot of trouble. Perhaps by now you are interested and want to try the floating screen circuit for yourself. If so, a few points worthy of mention are as follows.

As regards neutralising circuits, use grid, plate, or cross neutralising as you like, but the neutralising capacity is very small. To make things easier, boost the tube's grid-plate capacity with a small external condenser. Then it will be found that a reasonable size neutralising condenser can be used and adjustments are easier to make.

When using push-pull with cross neutralisation, the neutralising condensers should be approximately equal. However, one interesting fact was observed, the screen currents of the tubes were unequal; the tubes were changed over, but the same side of the circuit still had the highest current. The screen currents were balanced by increasing one neutralising condenser two turns and decreasing the other two turns.

However, this state of affairs may have been due to unequal grid-plate capacity loading mentioned earlier. The screen resistor should probably be located right at the tube or tubes, but three feet of lead did not seem to matter on 7 Mc.

— . . . —

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VK2AEZ	10	1
VK3XA	11	1
VK3CM	12	1
VK3ACL	14	1
VK3ABC	8	1

DR. A. L. GREEN

We record with deep regret the death of Dr. A. L. Green on 28th August, 1951. Dr. Green was born on 3rd February, 1905, at London, England. Educated King's College, London University, B.Sc. 1925, M.Sc. 1929, Investigator to Radio Research Boards, Councils for Scientific and Industrial Research Great Britain and Australia, Head of Commonwealth Ionospheric Prediction Service.

During his lifetime Dr. Green was foremost authority in Australia on Radio Propagation Phenomena and was instrumental in securing for the Institute the provision of the special chart which is published in this magazine each month. We Amateurs will always be indebted to "backroom" workers like Dr. Green whose untiring efforts to unravel the mystery of the ionosphere have helped in no small measure to remove the uncertainty from DX hunting. F.E. in particular will always reverse the memory of Dr. Green for his work on behalf of the W.I.A.

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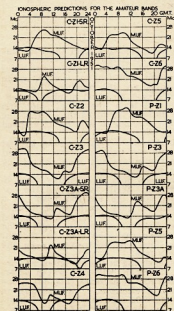
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TELEVISION MADE EASY

Part ii.—How the Camera Works

BY JOHN JARMAN,* VK3ADA

As Hams, we are naturally more interested in the receiving side of television than the transmitting side, but in television, unlike sound broadcasting, one cannot learn the principles of reception without some knowledge of what takes place at the transmitting end. For this reason, the next two articles of this series will be devoted to television transmission, commencing with the camera.

Now so far, we've learnt that the camera takes photographs continuously at the rate of 25 per second, and splits each of these photographs into 625 horizontal lines, transmitting each of these, in succession, as a stream of electrical impulses, corresponding to the light and dark portions of each line. How does it do it?

Well, consider your domestic camera. It consists of a dark box, fitted with a lens, by which light rays, from a distant object, are focussed on to a film, where they cause chemical action, which produces the photograph.

Now a television camera also consists of a dark box with a lens, but instead of a film, the light is focussed on to a special "target" that turns light into electric current (Fig. 1).

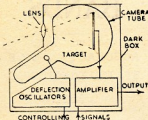


Fig. 1.

There are a number of different types of television camera in use, but to cover the general principles, it will suffice for us to deal with only one of them, and devote the rest of this article to the associated control equipment. (My, what a burst!)

First, let us study this "ere target (Fig. 2). Contained in a vacuum glass bulb, it consists of a thin sheet of dielectric (e.g. mica), whose front surface is studded all over with minute particles of a special metal which gives off electrons when light shines on them, or, if you want to be technical, they are "photo-emissive." Although very close to each other, these particles don't touch one another, but resemble little islands.

On the rear surface of the target is a sheet of thin metal called the "signal plate," so that the aforementioned particles are like a lot of little condensers, joined to a common lead. After all, a condenser is simply two conductors with a dielectric between them, and in

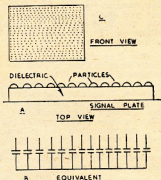


Fig. 2.

this case we have a particle and a signal plate, with a dielectric between them. Compare Fig. 2a and 2b, if this is not clear.

Now when light shines on the target, each little particle sheds a few electrons, the number depending upon the brightness of the light—so what? For a moment, we shall change the subject, and talk about condensers.

Consider a condenser, as shown in Fig. 3, with one plate connected to earth, through the resistor R. Now, remember, electricity is contained in everything, including plates X and Y, and when an object contains the correct number of electrons, it is said to be electrically neutral, as in Fig. 3a.

Let us now "rob" plate X of a few electrons, say two. Immediately, an equal number of electrons will "race" up from earth, through R, into plate Y, in an attempt to replace those taken from X (Fig. 3b). Let us now return to X the same number of electrons that we previously removed; in other words, we shall give X sufficient electrons to make it neutral. The extra electrons, which had gathered at Y, will at once realise that their service is no longer required, and "scram" back to earth, through R, so that a pulse of current flows through the latter.

Now consider a number of condensers, connected through a common resistor to earth, as in Fig. 4c, and suppose that from the upper plate of each condenser, a certain number of electrons be taken, as shown by the figures above. In each case, an equal number of electrons will enter the lower plate of the corresponding condenser, as in Fig. 3b.

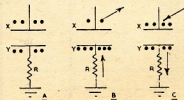


Fig. 3.

To each condenser, let us now give sufficient electrons to make it neutral. As each condenser is "satisfied," a number of electrons will flow down to earth, through the common resistor R, equal to the number taken by each condenser.

In other words, the common resistor will now carry a series of pulses of current, forming a pulsating d.c.

Having thus seen how pulsating d.c. can be produced by "discharging" a series of "charged" condensers (to use the correct electrical terms), let us now return to our television camera.

We have seen how light rays, focussed on the metallic particles on the target's face, cause each particle to emit electrons. Now for each electron emitted, an extra one will enter the signal plate, which is earthed through a resistor, just like the "common lead" we have been talking about.

Let's take a look at Fig. 4. "A" represents a typical line of the picture, as focussed on the target. (Refer back to last article, if necessary). "B" is a top view of the row of particles on the target, which will fall in this line.

Particles in the light parts will emit a lot of electrons, whereas those in dark parts will emit very few (note figures). "C" shows the condensers which these particles form.

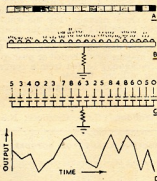


Fig. 4.

Now commencing from the left, suppose we discharge each of these condensers, by giving to each particle, in succession, sufficient electrons to make it neutral, i.e., the number it has lost. In each case, an equal number of electrons will leave the signal plate, and flow through R to earth, so that the current through R will be as graphed in Fig. 4d.

Therefore, our camera works, by first allowing the light to charge a lot of little condensers and then discharging them in succession.

But how does it discharge them in succession? Well, we saw in the last article how the electron beam of a cathode ray tube can be made to trace out a number of parallel horizontal lines. Suppose we put our target inside a cathode ray tube (Fig. 5) so that these lines will be traced out on the target's face.

Commencing at the top left-hand corner, the beam will now sweep across the top row of particles (Fig. 1c). Consisting of electrons, it will restore to each particle sufficient to make it neutral, i.e., the number it had previously emitted.

* A11426 L.A.C. Jarman, J.B., c/o S.L. Garden, Box 1424H, G.P.O., Adelaide.

The action reminds one of the act of passing a box of chocolates along a row of hungry "harmonics" seated at a table.

Just as each kid would grab sufficient "lollies" to satisfy his appetite, so does each particle collect sufficient electrons from the beam to restore neutrality. After completing each line, travelling from left to right, beam will "jump" back to the left hand side of the target, and trace out the following line, ultimately reaching the lower right hand corner when beam will return to its starting point. All of this takes place 25 times per second, and as the beam travels over each line, the action outlined in Fig. 4 will take place; so that a burst of pulsating d.c. will flow through the load resistor R (Fig. 5), from which the output is taken.

This type of camera is known in England as the emitron, and in U.S.A. as the Iconoscope, and it will be noted that the output is obtained by "electrostatic induction" (though I shall not bother you too much with this big word).

It might be mentioned that in other types of camera, the output is taken from the electron beam which, after scanning the target, is made to return to an anode. The losses, which the beam suffers, in restoring electrons to the target, cause changes in anode current, which represent the camera's output. An example of this type of camera is the Image Orthicon, which is so sensitive that it will photograph a scene in the light of a match! Its operation, however, is beyond the scope of these articles.



Fig. 5.—Emitron Camera Tube.

Having learnt the principle of operation of a typical camera tube, we, as Hams, will be more interested in the associated equipment.

The tube is of course contained in a dark box, fitted with lens and optical accessories. The camera case contains two saw-tooth oscillators (horizontal and vertical) to operate the scanning beam, and a small amplifier, to "boost up" the tube's output, before it leaves the camera. In many types of camera, portion of the output is fed into a small viewing cathode ray tube, mounted in the back of the camera case, to act as view-finder. Every camera is provided with headphones and microphones, which keep the cameraman in touch with the control room.

There are of course many other components in a television camera, but these are all we need bother about, in order to understand its operation, which is our main concern.

So far we've seen how the camera turns the picture into pulsating d.c. Before this picture signal can be used to modulate the transmitter, however, it undergoes some important modifica-

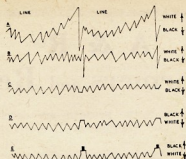


Fig. 6.

tions, some of which take place inside the camera, and others in the external equipment, as we shall see.

Let us first study the quality of this picture signal. Fig. 6a shows the signal as it leaves the tube. Note how it increases from left to right. This is called "Tilt and Bend" effect, and if not corrected, would cause the picture to appear brighter on one side of the screen than the other. Correcting signals, called "shading signals" are therefore mixed with the camera tube's output, which "flatten" it, as shown in Fig. 6b. Since the extent of this tilt and bend effect is constantly varying, the amplitude of these shading signals must be kept manually adjusted, to maintain correct balance.

Note also that at the end of each line, there is a high amplitude pulse, generated by the camera. This is removed, by applying suppressing signals (between lines and between pictures), so that the signal becomes as shown in Fig. 6c.

The picture contrast must also be constantly adjusted.

Theoretically, the camera tube's output at any black part of picture should be zero. Actually, however, the tube gives some appreciable output when a black portion is being scanned, so that if not corrected, black would be transmitted as grey, thus spoiling the picture contrast and general quality.

Furthermore, the tube's output, for black parts of the picture, does not remain constant, but varies appreciably.

Output must therefore be constantly adjusted, so that, briefly speaking, at any black part of the picture, no signal modulated the transmitter. This adjustment is called "setting the black level."

These faults are not common to all types of television camera, nor are they the only faults which television cameras suffer. There are plenty more, but these are probably the most common and have been mentioned here to illustrate the difficulty of keeping a good quality television programme on the air, compared with an ordinary sound broadcast.

Our signal, now "perfected," must be "inverted." We have seen that the brighter the picture, the greater will be the camera's output. In the last article, however, we learned that in Australia, negative modulation is to be used, so that arrangements must be made to ensure that the amplitude of the modulated carrier will decrease with picture brightness. In other words, the modulation system must be arranged so

that the darker the picture, the greater will be the carrier amplitude, as in Fig. 6d.

In the spaces between the lines, synchronising signals are inserted, as shown in Fig. 6e, but we'll treat this in more detail in the next article.

Now, we've said a lot about adjustments that are made to the camera's output, during transmission. Who makes them?

Well, between the camera and the transmitter there is a very important device, called the Camera Control Unit, consisting of a large control panel, containing monitor screens and many dials and switches. Most television broadcasts use more than one camera, and the Camera Control Unit is arranged so that for each camera, there is a monitor screen, and a separate set of controls. The c.c.u. operator must carefully watch the picture produced by each camera and keep the output adjusted, so that this picture maintains good quality. By means of fading controls, he can also select whichever camera is giving the best view of the scene, and fade one scene into the other, just as one sees on the movies. By means of a small telephone system, he can also issue the necessary instructions to the cameramen whose job is to keep their cameras trained on the scene and adjust the optical focus of their cameras.

Before closing, just a word about synchronisation. We learned in the last article how the receiver must work in perfect "step" with the camera. Now, likewise, all cameras in the studio must work in step with each other and of course the generators which provide the shading and suppressing signals, described earlier, together with the generator, which inserts the synchronising signals in the transmission.

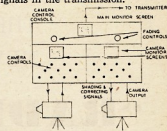


Fig. 7.

For this reason, all cameras and signal generators are controlled by a "master synchroniser" which may well be compared with the Sergeant Major, calling step to troops on the march, since the cameras, signal generators, and all receivers tuned in to the programme "take their orders" from this source, by keeping in step.

So far we've learnt how the camera turns the picture into electric signals, how the camera is controlled, and very briefly, how the receivers are kept "in step" with the camera. Before studying the receiver, we'll need to know more about the nature of these synchronising signals, which will be the subject of the next article.

Meanwhile, don't forget our query service. Mail your questions on Television to VK3ADA. The more we receive, the more we'll appreciate your enthusiasm. 73's till next month.

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A Single Tube V.F.O.

BY JAMES JACK,* VK2AGX

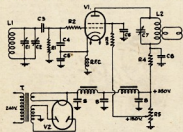
When the grid and plate circuits of a master oscillator are tuned to the same frequency, extensive isolation is necessary. But by tuning the plate circuit to twice the grid frequency, this difficulty is overcome and the use of isolator tubes avoided. This principle is employed in the following circuit.

This v.f.o. has been used here for some time with excellent results. Actually it came to me from VK2OQ, so if any honour is due for it, it belongs to Harry. Many chaps frown on single tube v.f.o.s, but we have not had any bad reports regarding the operation of this one.

The circuit is very simple, doubling from 3.5 to 7 Mc. in the tube itself.

The band set condenser C1 should be one with good bearings and heavy plates and once tuned to the correct frequency need not be touched again. It has been found that by pruning L1 till the plates of C1 are about two-thirds in mesh, best stability will be obtained. It is essential to keep L1 well away from the tube so that it will not be affected by heat from the tube, in fact it is a good idea to shield L1 in a separate compartment and put L2 and the tube in another section.

The circuit is quite flexible and here we found that by omitting the first filter condenser, thus making the filter choke input, and feeding the screen from a 50,000 ohm resistor from the full B+ (about 250 volts), that there was sufficient drive to drive an 807 on 7 Mc. Also a 50 pF. condenser was used in place of C4, a 100 ohm resistor for R2, earthing the rotor of C7 and capacity



- C1—250 pF. variable (old b.c. type).
- C2—25 pF. or less.
- C3—150 pF. mica.
- C4—25 pF.
- C5—100 pF. (neg. coeff.)
- C6—0.005 uF. mica.
- C7—50 pF. variable.
- C8—0.004 uF. mica.
- R1—100,000 ohms.
- R2—50 ohms.
- R3—500 ohms.
- R4—150 ohms. w.v.
- R5—15,000 voltage divider.
- RFC—25 mH.
- T—385-0-385 b.c.l. transformer.
- V1—6V6 or 6L6.
- V2—80, 5Y3, 5Y4, etc.
- Coils—L1: 3.5 Mc., 18 turns, 18 gauge, on 1" former; L2: 7 Mc., 18 turns, 18 gauge, on 1" former.

coupling from the plate through a 250 pF. mica condenser to the grid of the next stage. If capacity coupling is used the length of the connecting line will effect the number of turns on L2. The longer the line, the less turns required.

DX C.C. LISTING

PHONE

Call	No. Ctr.
VK3EE	10 155
VK3JD	1 158
VK6RU	2 140
VK4HR	12 146
VK6KW	3 145
VK3BZ	3 141
VK4KS	9 135
VK3LN	11 132
VK3LD	6 126
VK3JE	7 123
VK4JP	7 114
VK3AWW	14 113
VK4WJ	20 104
VK4DO	17 104
VK4WF	21 103
VK3ADT	13 102
VK2AHA	15 102
VK3PJ	16 101
VK6PJ	19 101
VK3GG	18 100
VK3IG	5 100

CW

Call	No. Ctr.
VK3BZ	6 153
VK4EL	15 157
VK2EO	2 152
VK3CN	1 151
VK4HR	150 150
VK8SA	28 150
VK3VW	4 143
VK3OL	5 141
VK3KB	10 138
VK6HU	18 135
VK3JL	16 132
VK5RX	23 132
VK3BO	33 129
VK4FJ	29 129
VK4RF	11 125
VK4DO	20 125
VK3JE	31 124
VK3EK	3 122
VK3FH	31 119
VK3JT	25 118
VK3UM	12 116
VK3CK	30 114
VK4DA	7 112
VK3PL	30 113
VK7LZ	17 112
VK4QL	36 110
VK4RC	1 107
VK3JD	27 105

OPEN

Call	No. Ctr.
VK3BZ	4 157
VK4HR	8 151
VK6RU	12 140
VK3JE	3 171
VK3LD	2 170
VK3CK	13 163
VK6RW	10 163
VK4DO	15 151
VK4FJ	32 150
VK4KS	24 140
VK3PL	26 143
VK3MC	5 137
VK3OP	19 137
VK3DD	22 136
VK3LN	32 130
VK2ADE	28 133
VK2AHA	9 128
VK2AHM	15 125
VK3NS	16 123
VK3HT	41 123
VK3JT	33 118
VK7LZ	23 116
VK3AWW	45 113
VK3JA	43 114
VK3ADT	14 113
VK3VQ	48 111
VK3PG	47 111

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- Neglecting end effect, calculate the length of a half wave aerial for operation on 16 megacycles.
- Define the following—(a) mutual conductance, (b) A.C. plate resistance, (c) amplification factor, (d) secondary emission.
- A capacitor of 4 microfarads, connected across a 50 cycle supply, has a reactance of 796 ohms. What would be the reactance if the capacity was changed to 2 microfarads?
- What in meters per second, is the nominal speed at which radio waves travel?
- What is the wave-length in meters of a signal frequency of 4 megacycles?
- If a 6-megacycle transmitter increases frequency by 0.07%, what is the frequency increase in cycles?
- If two coils, each having an inductance of 1 henry, are connected in parallel, what is the total inductance?
- For what percentage of each input cycle does plate current flow in a class "B" amplifier?

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CONTESTS

Remembrance Day Contest

The 1951 Remembrance Day Contest has successfully concluded with a larger number of participants than of previous years, indicating the desire of the Australian Amateur to honour the memory of those keys silenced forever whilst in the service of their country.

This Contest is unique in the annals of Amateur Radio in that no glory is attached to the individual, irrespective of the number of points scored by leading stations in each State, thus providing one of the rare occasions when the elusive DX is of no interest and giving one the opportunity of having short contacts with other VKs, many of whom we have known on Service. Not that the Contest is confined to Service personnel by any means—on the contrary this was exemplified by the large number of contacts which took place between the old-timers.

This year the Contest appeared to be more popular than ever, numerous calls being heard for the first time. VK9 stations were particularly active, operating on all bands from 3.5 Mc. to 30 Mc., thus providing a greater number of points than of other years. Of the calls heard for the first time, many were newcomers to the Amateur ranks—operating in their first Contest—the standard of operating being quite good. A number of stations did not make full use of the available bands—the 28 Mc. band being somewhat neglected—although those who persevered on this band were amply rewarded for their patience.

It is anticipated that the final scores will be published in the November issue of "A.R."

Jubilee Relay Contest

By the time these notes are published the Jubilee Relay Contest will have concluded and every corner of the earth should have been appraised of the fact that Australia is celebrating its Jubilee as a Commonwealth.

Radio Australia and other Empire Shortwave Networks have contributed to the publicity given the activities of the Australian and New Zealand Amateur, many requests being received for copies of the rules and log sheets. In addition, a talk will be given over the Australian Broadcasting Commission's National Network on the "Jubilee VK-ZL DX Contest" in News Review during the first week of October.

Jubilee VK-ZL DX Contest

All Amateurs in Australia and New Zealand should have now received a copy of the Rules and Log Sheet; any who have not, or any additional copies if required, can be obtained from Divisional Secretaries.

With reference to the rules, it has been suggested that an ambiguity could arise regarding the interpretation of the words "British Isles Prefix." These prefixes are G, GC, GD, GI, GM, and GW—not G2, G3, G4, etc.

In the Receiving Section, Rule 3 should read: "... the strength and tone of the calling station." As set out in the Log Sheet and "A.R." it reads, "called station."

The trophies illustrated on this page are for the Open, Phone, and C.V. Sections. Certificates or medallions will be awarded for the winners on various bands.

The success of the 1951 Jubilee VK-ZL DX Contest depends on YOU! Don't forget to send in your log sheets irrespective of the number of contacts made, and don't forget to send them in early. The Committee has done its

part in publicising this Contest to the world, and it is fervently hoped that conditions will be on the side of all those participating.

Remember, the C.W. Section commences at 0001 G.M.T., 13th October, concludes 1200 G.M.T., 14th October; Phone Section commences 0001 G.M.T., 20th October, concludes 1200 G.M.T., 21st October. Your logs should be in Sydney not later than 30th November. (Foreign logs not later than 31st January, 1952.)

In conclusion, the Jubilee Federal Contest Committee would like to thank Allen Fairhall, VK2KB, who is a member of the House of Representatives at Canberra, for his interest in pressing the Amateurs' case for recognition during the Jubilee Celebrations and obtaining thereby a monetary grant from the Commonwealth. The Committee also extend its thanks to W.I.A. Divisional Officers and Officers of the N.Z.A.R.T. who assisted so capably with the distribution of the Rules and Log Sheets.

Operating in R.D. Contest

My memories of the Contest are just a complete haze. I sat down at my operating position in the shack, and with three freshly sharpened pencils, together with ten clean sheets of paper, I prepared to do battle with all the other entrants in the battle of the numbers. I'm sorry, the Remembrance Day Contest.

Calling CQ Contest, in my best Rose Park manner, I prepared sedately to enter the first number received. I was surrounded by pencils, numbers, call signs, and a couple of log sheets. When I came to, I was laying on the mat in the passage with my wife throwing water on me, and my daughter wearing a very worried look on her face, was asking what was the matter.

My wife, in a very resigned voice, explained to her that Dad was in a Contest and had become a little confused. My daughter said, "A radio contest? When my wife said 'yes,' my daughter lost interest with the words, 'oh, that explains it all.'"

Nothing daunted, I girded my loins and with restored vigor, started throwing numbers at all and sundry. The next time that I went to the mat, my wife's mother who was visiting us had joined in the water throwing, and seemed to be getting quite a kick out of it. She was telling my daughter in an aside, "your father was always a little queer, my dear, even when he was an assiduous on your mother."

Gently rising to my feet, and sneaking in a sly kick in the shins to my mother-in-law, I forced myself back to the receiver and took a couple of hours more punishment before my spirit finally gave out, and as my wife tucked me into bed after saying my prayers, I never had enough spirit to answer back, as she said, "Patsy, you've had a busy day!"

Well, there you are, that is the Remembrance Day Contest for you, and whilst you may not have had such a hectic four or five hours as I did, I'll bet there were a couple of times that you would have willingly gone to the mat.

It was a grand contest, it meant renewing a lot of acquaintances that you had almost forgotten, and best of all, it is the finest way of paying homage to that gallant band of "Silent Keys."

—Tansy Parsons, VK3PS.

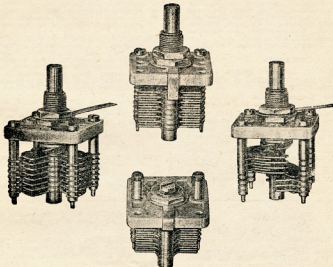


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suitable up to 100 Mc.
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Secretary: C. Dyer (VK3DY), 19 Collington Ave., Brighton (C.A. 6289).

Administrative Secretary: Mrs. S. May, Law Court Chambers, 191 Queen St., Melbourne.

Meeting Night: First Wednesday of each month at the Radio School, Melb. Technical College.

Zone Correspondents: Western: C. K. Waring, VK3YW, 12 Skene St., Stawell; South Western: K. O'Rourke, VK3AKR, Killigrew, Westmore; North Eastern: T. K. Tennant, c/o Victory Theatre, Tatura; Far North Western: M. Folie, VK3GE, 101 Lemon Ave., Mildura; Eastern: H. O. Kellas, VK3AHH, Timbarra; North Western: C. Case, VK3ACE, Cummins Ave., Birchip.

FEDERAL

HANDBOOK FOR OPERATORS OF AMATEUR WIRELESS STATIONS

In view of the fact that many members are interpreting the Regulations from the Handbook for Operators of Amateur Wireless Stations, January, 1948, which is now somewhat out of date, F.E. are delegating these columns to a complete errata and amendments to bring this book up to date.

It is strongly suggested that every Amateur spare an hour to complete these amendments to his Handbook, and at the same time refresh his mind on the details of the regulations under which he is licensed to operate his station.

Amendments up to 31st August, 1951

In all places where mentioned, delete "Chief Inspector (Wireless)" and insert "Assistant Director-General (Wireless)".

Page 3, para. 2: Delete the definition of "duplex operation."

Insert the following: "Third party" means another person besides the two principals (one of whom is at the transmitter and one at the receiver).

"Broadcasting station programmes" means programmes broadcast by stations operating on the medium frequency broadcast band, i.e., 635 Kc. to 1605 Kc. but, in remote areas where, because of the medium wave reception, it is usual for listeners to rely on programmes originating from high frequency broadcasting stations licensed within the Commonwealth or its Territories, such programmes are also to be included in this definition.

Page 4, para. 13: Delete. Insert: "An application to install and operate an Amateur station at a Department of Navy, Army, Air or Supply establishment, depot camp, etc., may not be considered unless the approval, in writing, of the Department concerned has previously been obtained. In the case of the Departments of Navy, Army, and Supply, such approval may not be recognised unless issued by the Central Administrations, Melbourne. Authority in this connection is hereby delegated by the Department of Air to Area Headquarters in the States concerned. The question of the operation of an Amateur Station on Department of Civil Aviation property is a matter for the Regional Director concerned of that Department and the applicant."

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7195 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intra-Station working frequency, 7175 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3598 and 7195 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-Station working frequency 7185 Kc. Individual frequency checks of all Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3750 Kc., 7195 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights a week, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI: Sundays, 1000 hours SAT, on 7195 Kc. Frequency checks are given by VK5DW by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0830 hours WAST, on 7195 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7195 Kc. and 146.5 Mc. No frequency checks are available.

Page 6, para. 29: Third line, amend to read: "Their use for instructional purposes is confined."

Page 6, para. 32: Amend to read: "An Amateur station licensee may transmit in English and receive in any recognised language, plain language messages."

Page 6, para. 33: In the fourth line after "direct or indirect" insert the words: "or any matter of a commercial character." At end of paragraph, insert: "The relevant regulation under the Wireless Telegraphy Act 1905-1936 concerning this matter reads as follows: '56 (3). The licensee of an Amateur Station shall not, except in writing of an authorised officer, undertake the transmission or reception of messages for third parties.'"

Page 6, para. 36: Third line after "emanating from other Amateur Stations," insert "irrespective of the frequency of the originating transmission."

Insert new paragraph: "36A. Subject to certain conditions, a limited number of permits to record and re-play transmissions from other Amateur Stations operating in the Amateur frequency bands below 50 Mc. are issued as from September of each year to the licensees of Amateur Stations by the Superintendent, Wireless Branch, in the various States."

Insert new paragraph: "36B. The licensee of any Amateur Station may, in the Amateur frequency bands of 50 Mc. and upwards, record and re-transmit transmissions from other Amateur Stations operating in these bands. The equipment so employed must be capable of producing recordings of high quality. Re-transmissions made at the request of an individual station are to be limited to a period not exceeding five minutes in the aggregate in any one day."

W.I.A. ACTIVITIES CALENDAR

October 13-14: VK-ZL Jubilee Contest (C.W. Section).

October 20-21: VK-ZL Jubilee Contest (Phone Section).

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President: J. H. Farrell, VK4WJ.

Secretary: J. F. Pickles, VK4FP, Box 638J, G.P.O., Brisbane.

Meeting Night: Third Friday in each month at the I.R.E. Rooms, Wickham St., Valley.

Divisional Sub-Editor: Clive J. Cooke, VK4CC, Kurran Street, Chermiside, Brisbane.

SOUTH AUSTRALIA

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Secretary: G. M. Bowen, VK3XU, Box 1234K, G.P.O., Adelaide.

Meeting Night: Second Tuesday of each month at 17 Wymouth St., Adelaide.

Divisional Sub-Editor: W. W. Parsons, VK3PS, 10 Victoria Avenue, Rose Park.

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Secretary: H. B. Lang, Box N1002, G.P.O., Perth, W.A.

Meeting Place: Perth Technical College Annex, Mounts Bay Road, Perth.

Meeting Night: Second Monday of each month.

TASMANIA

President: R. O'May, VK7OM.

Secretary: L. W. Edwards, VK7LE, Box 371B, G.P. Station, Hobart.

Meeting Night: First Wednesday of each month at the Photographic Society's Rooms, 183 Liverpool St., Hobart.

Divisional Sub-Editor: S. Excell, VK7SJ, 77 Mollie St., Hobart, Tasmania.

North Zone Correspondent: C. A. Cullinan, VK7XW, 12 Montrose Place, Launceston.

Page 7, para. 42: Fourth line, after "licence or special permission" add "In this connection, due regard must be paid to the provisions as indicated in paragraph 15."

Page 7, para. 43: Delete following portion, "In certain cases . . . three months."

Insert in lieu thereof: "In certain cases, the licence or special permission to operate mobile stations within any of the authorised Amateur frequency bands below 50 Mc. may be granted for a period normally not exceeding three months in any one current year of the licence."

Page 7, para. 50: Delete. Insert: "An Amateur Station licence may be granted to a radio officer, or other qualified person, to operate an Amateur Station on board an Australian ship on which he is employed, if the approval of the Master of the vessel is obtained. Such a licence confers the right to operate the station at all times except while the vessel is anchored in any harbour or moored to any wharf or pier in Australia. Its operation without the approval, in writing, of the Assistant Director-General (Wireless)."

Page 7, para. 53: Delete. Insert: "Any person who has been licensed by a foreign Administration to install and operate an Amateur Station on board a vessel, etc., shall not operate his station while the vessel is anchored in any harbour or moored to any wharf or pier in Australia. Its operation without the approval, in writing, of the Assistant Director-General (Wireless)."

Page 11, para. 86: After the word "persons" add: "Electrical wiring associated with Amateur installations must comply with the safety standards demanded by the Electrical Supply authority concerned. In addition, licensees must take all other reasonable precautions considered expedient for the particular installation."

Page 11, para. 89: Delete "168" in the last line and substitute "144".

Page 12, para. 95: Add to this paragraph: "While single components such as valves, transformers, etc., capable of handling power in excess of that authorised shall be permitted for use in Amateur Stations, unless prior permission has been obtained by the Superintendent, Wireless Branch, no combination of such components may be so used."

Page 12, para. 98: Delete all figures and substitute the following:—

3.5 —	3.8 Mc.
7 —	7.2 "
14 —	14.4 "
28 —	28.8 "
50 —	54 "
70 —	72 "
100 —	108 "
200 —	216 "
300 —	324 "
400 —	432 "
500 —	540 "
600 —	648 "
700 —	756 "
800 —	864 "
900 —	972 "
1,000 —	1,080 "
1,200 —	1,296 "
1,400 —	1,512 "
1,600 —	1,728 "
1,800 —	1,944 "
2,000 —	2,160 "
2,200 —	2,376 "
2,400 —	2,592 "
2,600 —	2,808 "
2,800 —	3,024 "
3,000 —	3,240 "
3,200 —	3,456 "
3,400 —	3,672 "
3,600 —	3,888 "
3,800 —	4,104 "
4,000 —	4,320 "
4,200 —	4,536 "
4,400 —	4,752 "
4,600 —	4,968 "
4,800 —	5,184 "
5,000 —	5,400 "
5,200 —	5,616 "
5,400 —	5,832 "
5,600 —	6,048 "
5,800 —	6,264 "
6,000 —	6,480 "
6,200 —	6,696 "
6,400 —	6,912 "
6,600 —	7,128 "
6,800 —	7,344 "
7,000 —	7,560 "
7,200 —	7,776 "
7,400 —	7,992 "
7,600 —	8,208 "
7,800 —	8,424 "
8,000 —	8,640 "
8,200 —	8,856 "
8,400 —	9,072 "
8,600 —	9,288 "
8,800 —	9,504 "
9,000 —	9,720 "
9,200 —	9,936 "
9,400 —	10,152 "
9,600 —	10,368 "
9,800 —	10,584 "
10,000 —	10,800 "
10,200 —	11,016 "
10,400 —	11,232 "
10,600 —	11,448 "
10,800 —	11,664 "
11,000 —	11,880 "
11,200 —	12,096 "
11,400 —	12,312 "
11,600 —	12,528 "
11,800 —	12,744 "
12,000 —	12,960 "
12,200 —	13,176 "
12,400 —	13,392 "
12,600 —	13,608 "
12,800 —	13,824 "
13,000 —	14,040 "
13,200 —	14,256 "
13,400 —	14,472 "
13,600 —	14,688 "
13,800 —	14,904 "
14,000 —	15,120 "
14,200 —	15,336 "
14,400 —	15,552 "
14,600 —	15,768 "
14,800 —	15,984 "
15,000 —	16,200 "
15,200 —	16,416 "
15,400 —	16,632 "
15,600 —	16,848 "
15,800 —	17,064 "
16,000 —	17,280 "
16,200 —	17,496 "
16,400 —	17,712 "
16,600 —	17,928 "
16,800 —	18,144 "
17,000 —	18,360 "
17,200 —	18,576 "
17,400 —	18,792 "
17,600 —	19,008 "
17,800 —	19,224 "
18,000 —	19,440 "
18,200 —	19,656 "
18,400 —	19,872 "
18,600 —	20,088 "
18,800 —	20,304 "
19,000 —	20,520 "
19,200 —	20,736 "
19,400 —	20,952 "
19,600 —	21,168 "
19,800 —	21,384 "
20,000 —	21,600 "
20,200 —	21,816 "
20,400 —	22,032 "
20,600 —	22,248 "
20,800 —	22,464 "
21,000 —	22,680 "
21,200 —	22,896 "
21,400 —	23,112 "
21,600 —	23,328 "
21,800 —	23,544 "
22,000 —	23,760 "
22,200 —	23,976 "
22,400 —	24,192 "
22,600 —	24,408 "
22,800 —	24,624 "
23,000 —	24,840 "
23,200 —	25,056 "
23,400 —	25,272 "
23,600 —	25,488 "
23,800 —	25,704 "
24,000 —	25,920 "
24,200 —	26,136 "
24,400 —	26,352 "
24,600 —	26,568 "
24,800 —	26,784 "
25,000 —	27,000 "
25,200 —	27,216 "
25,400 —	27,432 "
25,600 —	27,648 "
25,800 —	27,864 "
26,000 —	28,080 "
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27,400 —	29,592 "
27,600 —	29,808 "
27,800 —	30,024 "
28,000 —	30,240 "
28,200 —	30,456 "
28,400 —	30,672 "
28,600 —	30,888 "
28,800 —	31,104 "
29,000 —	31,320 "
29,200 —	31,536 "
29,400 —	31,752 "
29,600 —	31,968 "
29,800 —	32,184 "
30,000 —	32,400 "

Page 12, para. 167: After "Pulse" emissions add: "The narrow band frequency modulation telephony. Transmissions to be confined within plus or minus 3 Kc. of the quiescent carrier frequency. Type A4a waves, 5.5-5.5 C, single sideband reduced carrier telephony."

Page 13, para. 105: Under "Type A4a waves" delete "166" and substitute "144". Under "F.M." amend to read: "The band 26.96-27.23 Mc. and all authorized frequency bands from 50 Mc. upwards." Under "Pulse" delete "166" and substitute "144". Under "Pulse" add: "NFB (narrow band plus or minus 3 Kc.). All authorized bands. Type A4a waves (single side band reduced carrier) all authorized bands except the band 26.96-27.23 Mc."

Insert new paragraph: "105A. Where pulse transmission is employed, the length of each pulse and the nature of the emitted wave-shape shall be such as to restrict the radiated sidebands within the limits of the Amateur frequency band in which the transmission is taking place."

Page 13, para. 116: In second and last lines delete "165" and substitute "144".

Page 14, para. 111: Delete the words "and duplex" from both the heading and the second lines of this paragraph. Delete also the words "In the case of duplex operation" from the fourth line and the word "however" from the fifth line.

Page 15, para. 121: Under sub-paragraph (e), delete "Except 0 or 1".

Page 16, para. 129: Delete "M66" and substitute "144".

Page 16, para. 132: Add new paragraph, "132A. Provided that portable and/or mobile stations which are using telegraphy indicate their location (including the State) at the end of the initial call and immediately before conclusion of a session, as required by paragraph 132, the suffix '3', '2', etc. to indicate the State from which operation is taking place) may be added to the station call signs for intervening calls and the word 'portable' or 'mobile' may be omitted therefrom."

Page 25, appendix 3: In third line, delete the word "Assistant" and amend address to read "340 Collins Street, Melbourne, C.I.I."

Page 27: Delete "Duplex Operation . . . 2.111."

Page 28: Under "Mobile Amateur Stations" add further paragraph "132A."

Page 29: Under "Portable Amateur Stations" add further paragraph "132A." Under "Pulse transmissions" add further paragraph "105A." Under "Recordings-Re-transmission by" add further paragraphs "36A, 36B."

FEDERAL QSL BUREAU

RAT JONES, VK3RJ, MANAGER

An award worth achieving is the "Worked All America" Award instituted by Liga de Amadores Brasileiros de Radio Emissao to encourage interest in the American amateur. The W.A.A. award is for confirmed contacts with 45 or more of the 57 countries listed in the entire Americas and is available to Amateurs everywhere in the world. Confirmations have to be forwarded direct to L.A.B.R.E. Headquarters, Box 2553, Rio de Janeiro, Brazil. Further information as to additional conditions may be had from this Bureau.

Many VK stations will be interested to know that the first batch of QSLs from FGPA, Guadeloupe, arrived here early in September. Phil CM9AA and Lily Richard CM2AC, during their 12-day sojourn at Guadeloupe, worked 110 countries and W.A.C. Phone eight times and c.w. 12 times. The Tx used ran 50 watts and all antennae were folded dipoles.

From the Southern California DX Club bulletin for June, 1951: "I am surprised to hear that the A.R.R.L. is bouncing ARAB cards. As I know Jean quite well and I am sure that all is OK, I will write the A.R.R.L. and see what I can find out." The foregoing is portion of a letter in the Bulletin received from Don ex-DL4QH.

The above-mentioned Journal also publishes the fact that VK1VU will not QSL. Don Wallace W4AM is, however, persisting with his endeavours to extract a card, but his cajolery and inducements are still falling on deaf ears. From Stan Mayne, VR2AS, dated 17th April, 1951: "Why the world seems to think the VR2

CRYSTAL SWAP

We have received several requests from readers to commence a section listing Crystals available for exchange.

This service will be entirely free and all that is necessary is to forward details of the Crystal to the Editor "A.R." Crystals will be listed ONCE only.

Bureau is the centre for all the Pacific, goodness only knows. For the past year I've been forwarding on VRI, VR3 and VR5 cards. Like the wharries, I've now struck. The cost of postage is too hot and in this small place we have no club to finance things. VK boys are bad offenders in this respect also. I have re-

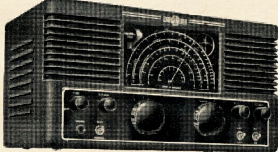
turned them to you to let the boys have them back. If you get a chance put a word in for me in the VK Journal." Well Stan, there it is and I hope it relieves you of some of the inconvenience and expense.

VK1BS, Bill Storer, a Sydney P.M.G. telegraphist, who prior to commencing duty at Macquarie Island, did not have a Ham ticket, wants all QSLs for him to be sent to the VK2 Bureau. He is not due back until May, 1952. Bill says that VK1WO, also on Macquarie, is nearly ready to "fire".

Above par came from Eric Trebilcock, BE8S 185 who now has 185 countries confirmed post-war. Seems to me Eric that listeners do better than Hams in this respect. Eric also states that there is a possibility of Ham operation from Cocos Island (ZC) in the near future, when D.C.A. staff commence duty there.

Another award well worth striving for is the Diploma of the French Union (D.U.F.), sponsored by the R.E.F. Under the amended rules of March, 1951, the award will consist of four sections. The first section requires confirmed contacts with stations of the French Union situated in three continents including Europe and totalling five countries. The second

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Eddystone Model "740"

Eight Valve Communication Receiver

★ Tuning Range (Calibration accurate to better than 0.5%):—

Band 1—30.6 Mc. to 10.5 Mc.

Band 2—10.6 Mc. to 3.7 Mc.

Band 3—3.8 Mc. to 1.4 Mc.

Band 4—205 metres to 620 metres

★ Operation—110v., 200v., 230v. A.C. Mains.

★ Full Circuit Diagram, Component Parts List, Point-to-Point Voltage Checks and Alignment Procedure given in Service Manual with each Receiver.

★ The Best Priced Amateur Receiver on the Market.

★ Will operate from 6 volt Battery for mobile work in conjunction with Eddystone Cat. No. 687 Vibrator Power Unit.

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section requires four continents including Europe and eight countries. The third section requires five continents including Europe and 10 countries, while the fourth and final section requires six continents including Europe and sixteen different countries. The award is progressive and sections may be claimed progressively. Completion of the sections entitles the applicant to receive a special medal, silver-plated and stamped to indicate the holder. The reverse side of the medal is graven with the number of the fourth section diploma obtained. Certificates for each section are free but the medal costs 700 francs. Confirmations and applications for any of the sections should be submitted to this Bureau, and do not have to be forwarded to the R.E.P. The first VK winner of the complete sections and medal as far as is known is VK2DI.

Cards incoming to the Bureau during the month of August are well below the average in numbers and probably this is a reflection of the poor and erratic conditions prevailing on the DX bands for the past twelve months.

Interesting cards sighted during August are YUEZL (ex-G3E2L, whose home QTH is J. E. Blore, 27 Fountain St., Leek, Staffs., England); MD2PJ, of Tripoli, Libya, or via R.S.G.B.

NEW SOUTH WALES

The August general meeting of the N.S.W. Division was held at Sefton House on Friday, 24th, with the President, John Moyle, in the chair. The attendance wasn't as good as usual—there were some vacant seats at the back. This may have been partly due to the fact that the monthly bulletin was not sent out this month and looks a wee bit like the "do-do" on present appearances. (Surely everybody knows that the meeting night is on the fourth Friday though). This wiping of the bulletin without notice in such precipitate fashion brought forth some criticism at the meeting, but when it was explained that the cost of production had soared to £175 per annum (including postage) and that it had to get to press so early now that the contents were stale by the date of receipt, a motion was passed endorsing Council's action.

The meeting was unlucky enough to strike the zone blackout night and in consequence the first part of the proceedings were conducted in a dim religious kind of light emanating from two pressure lamps, until 8.45 p.m. Those who missed the meeting should proceed to kick themselves heartily, for they missed a treat.

Neve Williams 2XV was the highlight of the evening with his talk and demonstration on wire and tape recorders. After the lucid discourse we all know something about recorders at last, and after the demonstration we went home with that glow of satisfaction one derives from an evening well spent.

The versatility of the tape recorder from the viewpoint of editing and production was revealed by an excerpt from the well known farce, "The Mill Girl," on the platform with the assistance of Miss Ruth Plummer and Mr. Phil Watson, who kindly came along for the purpose. The lines were purposely scrambled somewhat to turn the recording of the show into a producer's nightmare, but with a few swift flips of the control the mistakes were expeditiously wiped off the tape, and the recording taken up again from the interruption. The final edition was so good that baby's cheek with no trace of the stops and cuts.

The audience laughed until their sides and jaws ached at the next demonstration. A harmless recording of a Ham transmission on the 7 mc. band was first played as came over the air and then as "edited" by some of the boys

from the newspaper office. Lots of dreadful remarks and hilarious sound effects had been effectively injected. The demonstration concluded with an interesting companion of the same orchestral piece, firstly on the tape, then on a conventional home disc recording made by the President, and then on a commercial microgroove recording.

Don't forget the Annual Field Day at Wey on Sunday, 18th November. Besides the usual Amateur attractions, a special programme has been arranged this year for the ladies and the youngsters. Also, don't forget to listen to the weekly VK2WF broadcasts for announcements of meetings and all other relevant news especially now that the bulletin is in a state of—shall we say—suspended animation. This Division takes this opportunity to welcome Lyell Woolnough 2GW, one of the dyed-in-the-wool old timers, to the Council.

The Divisional sub-editor is grateful this month to 2YK and 8GW for items of news interest and "copy."

ST. GEORGE ZONE

I have been listening on and off for the last month to try and hear some of the local boys on 20, but VK2s were conspicuous by their absence, and as I have been very busy lately (exam, next Tuesday night, thank heavens), I have not been around to see the local lads. I would like to know if 2ASK, 2JJ, 2XW, 2SW, 2ALT, 2AIL, 2AGH, 2BN and 2AHV are still poking holes in the ether; if they are, I have not heard a single peep out of any of them.

2AGH and 2BN could of yore be heard DXing mostly at any time, but both are very quiet now. 2JJ, I believe, is now in JA land, and 2ASK and 2SW are cruising around the ocean somewhere, but what has happened to "All in Love"? He must be sick or something. Heard 2SA on 10 recently, but not once did I hear anybody come back to his CQs—keep trying Wal! Also heard 2XX on v.h.f. making contacts now and then.

Listening on 20 has been very "dead" and I have not been able to listen on 40, 240 volts on the aerial coil did not improve things at all. Anyway, boys, I will be around to see you after Tuesday each month so if you hear or know of news or items of interest for these columns keep it in mind now. Most of you know my QTH: 84 Carlton Cres., Kogarah Bay.

ACCURATE FREQUENCY TRANSMISSION RESULTS

The following is the official results of the Accurate Frequency Transmission from VK3WI on 23rd August, 1951, on the 3.3 Mc. band:—

3500 Kilocycles 20 cycles low			
3530	"	40	"
3560	"	25	"
3590	"	35	"
3620	"	30	"
3650	"	52	"
3680	"	20	"
3710	"	45	"
3740	"	20	"
3770	"	60	"
3800	"	16	" high

Setting a New Standard in Communication Receivers—

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Free Data Sheets on Request

Interstate Representatives: West. Aust.—Messrs. Atkins (W.A.) Ltd., 894 Hay St., Perth. Queensland—Messrs. A. E. Harrold, 123-5 Charlotte St., Brisbane. In other States direct your inquiries to firms handling Bright Star Crystals.



Valves, new, boxed, RCA 834s, £18/- each.

Limited number of the following Taylor Tubes: TZ20s, £2/10/- each; TB35s, £6/10/- each.

Transmitters altered for Bush Fire and Fishing Boat Work.

CRYSTALS, as illustrated, 40 or 80 mx., AT or BT cut. Accuracy 0.02% of your specified frequency, £2/12/6 each.

20 metre Zero Drift, £5 each.

Large, unmounted, 40 or 80 metre, £2 each.

Special and Commercial Crystals—Prices on application. Crystals re-ground, £1 each.

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Screw-type Neutralising Condensers (National type), suits all triode tubes, Polystyrene insulation, 19/6 ea.

Prompt delivery on all Country and Interstate Orders.

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EASTERN SUBURBS
Congrats are in order for John 2CF who recently became engaged to a charming YL named Denise. John is making up a new Rx and relegating the Type 3BZ to a stand-by role. A Type ASV Rx has been converted for 144 Mc. application but John doesn't consider it much of a success. Over towards the south, Vince 2VA has a new interest on 14 Mc. It is a s.s.b. outfit which, at time of writing, seems to have technical problems. The indubitable "Victor Ab" however, will no doubt have the gremlins chased away in due course.

NORTH COAST AND TABLELANDS

and Doug N/C's happens heard on 89 of an evening and some of the Inverell boys have come out of hibernation. Ted ZZX seems to be the most active. Roy ZNY puts S max. signals into the air. Doug ZYX has been heard on 89 and the DX on 20 as is Doug ZSH. DX often heard calling Syd ZAPS who spent a few days at the beach. Doug ZYX has been heard on 89 with the coastal boys. ZYO Crieff bogged down with the flu, but nearly back to his old self again. Len ZLR is now writing a collection of poems. The new MARY singing with the tape recorders, at the moment of writing is rather ill, we wish him a speedy recovery. Trust the boys will be back on the air soon. ZYX seems to be in a lot of trouble pulling dials to pieces, one OT said he was using a VT501 and it isn't amplifying. The boys are still in the DX, especially Larry, at Tamworth.

RETRACTED, THIS A SCENE

Hugo 2WH recently paid a flying visit to Newcastle, but short notice did not permit the band being out to meet him. Other visitors to the city were 2AFY, 2AAQ and 2RM. Hunter lads who entered the R.D. Contest made a good show. Harold 2AHA appeals to the boys to put forth their best efforts in the Jubilee Contest.

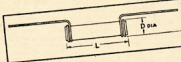
Interest aroused by Mattland meeting. VK2APK is on air again with nice 40 metre phone contact. He has been working in R.D. contest recently. Interest in John blowing all volume controls in Rx! ZANL on 40 again and Joe is talking on 144. Pleased to report 2MR activity once more. Edgar had arguments with female friend. She was very noisy. OK now. AGD meeting, one well on 40 and George recently landed a VK on phone. Tom 2PQ has started on a multi purpose 10-20 metre beam. 2CN is worried about his 7000 watt beam. BZB is on 40. Seen lately at opera was 2PT, but no arise from Alan on Ham bands yet. 2KQ QRL with old timers session on 80. Jack has invited ZLSBT to "Barney of York". Bill GAMB will be with him. Discourse QTH and has worked new country—HS.

1990年12月15日

Cess 2KR working Sydney on 144 and cross band to 6 with 2GA and 2RU. 2RU has been getting an occasional break on 6. 2ARV active on 40 phone and c.w. during the week-end.

FAR NORTH WESTERN ZONE

Members of this zone gave valuable assistance at an Exhibition held at the Mildura Town Hall and conducted by the local Scout Movement. The Exhibition turned out to be a first-rate show with Ham activities claiming plenty of attention. JTI's rig was installed at the Town

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- TOLERANCE OF CAPACITANCE: $\pm 20\%$ at 28°C .
- Test conditions 130 Kc/s. 10 V. R.M.S.
- INSULATION RESISTANCE: Greater than 5,000 Megohms at 1,500 V. D.C. at temperatures up to 100°C .
- WORKING VOLTAGE: 500 V. D.C. or 250 V. R.M.S. A.C. (20 cps-60 cps).
- TEST VOLTAGE: 1,500 V. D.C.
- DIELECTRIC: Unilator K.3000.

TYPE	CAPACITANCE	DIA. D. OVER WIRES	LENGTH (L)
CTH 310	680 pF	0.18"	0.4"
CTH 310	1,000 pF	0.18"	0.4"
CTH 310	1,500 pF	0.18"	0.4"
CTH 310	2,200 pF	0.18"	0.4"
CTH 310	3,300 pF	0.18"	0.6"
CTH 310	4,700 pF	0.18"	0.6"
CTH 422	6,800 pF	0.22"	0.9"
CTH 422	10,000 pF	0.22"	0.9"

- FINISH: Dimensions shown are for Finish "C." For Finish "A" increase overall dimensions by 0.080".
- MARKING: Capacitance—Red ink on white body.

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Simple tuning controls with direct frequency reading on main dial. Special device fitted to prevent high initial surges when switching on. Usable on 110, 200 and 230 volts A.C. or D.C.

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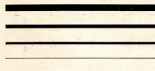
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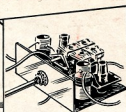
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- MELB:** Lawrence & Hanson Electrical Pty. Ltd.; Replacement Parts Pty. Ltd.; Vealls Electrical and Radio Pty. Ltd.; Homecrafts Pty. Ltd.; J. H. Magrath & Co. Pty. Ltd.; John Martin Elect. & Radio Co.; Warburton Franki Ltd.; A. H. Gibson Elect. Pty. Ltd.; Motor Spares Ltd.; A. G. Healing Ltd.; Hartleys Ltd.; Aus. General Electric; Amal. Wireless A/asia Ltd.
- SYD:** John Martin Pty. Ltd.; Geo. Brown & Co. Pty. Ltd.; Fox & Macgillycuddy Ltd.; Aust. General Elect. Pty. Ltd.; Dominion Factors Pty. Ltd.; Homecrafts Pty. Ltd.; Radio Despatch Service; Davis Radio Co.; Elect. Parts Pty. Ltd.; Lawrence & Hanson Electrical Pty. Ltd. (Sydney and Newcastle); Homecrafts (Newcastle); Bloch & Gerber Ltd.; Boyts Radio and Electrical.
- ADEL:** Geo. Procter (Factory Rep.); Newton MacLaren Ltd.; A. G. Healing Ltd.; Harris, Scarfe Ltd.; Oliver J. Nilsen & Co. Ltd.; Gerard & Goodman Ltd.; Unebaun & Johnstone Ltd.; Radio Elect. Wholesalers Ltd.; Clarksons Ltd.
- PERTH:** Nicholson's Ltd.; A. J. Wyle.
- BRIS:** Chandlers Pty. Ltd.; B. Martin Pty. Ltd.; Crouch & Connah Pty. Ltd.
- TAS:** Lawrence & Hanson Elect. Pty. Ltd. (Hobart, Launceston); W. & G. Genders Pty. Ltd. (Hobart, Launceston, Burnie); Noyes Bros. Ltd. (Launceston); Homecrafts (Launceston, Hobart, Burnie); Gordon A. W. Wood (Launceston).